**IT Applications, Unit 4**

**Ch 4, Organisations and information needs, p 129-136**

What is an information system?

1. Define an information system.

A system is a group of components that work together. A system can be as simple as processing and assembling hamburgers at a fast food outlet or as complex as launching a space shuttle into orbit. This is also true of an information system.

1. List the 4 components of an information system.

* **Equipment** (software and hardware)
* **Data** to be manipulated
* **Personnel** to oversee the running of the system
* **Procedures** to ensure that data is manipulated in an efficient manner.

**Components of an information system**, p 131

**Equipment**

**1 Software**

Elaborate under each of the following four main types of software.

1. Operation or system software

Operation software controls the actual operations of the computer hardware. A computer system without an operating system would not be able to run any applications.

1. Application software

Application software provides support to computer users. These programs are generally created by programmers and sold in large quantities to customers.

1. Utility software

Utility software is system software that performs a particular task. Most operating systems include utility programs that perform tasks such as diagnosing problems, scanning disks and defragmenting disks.

1. Programming software

A programming language is a set of words and/or codes that allows a programmer to communicate instructions to a computer. As humans, we can speak and understand a variety of languages to communicate with one another.

**2 Hardware**

a. List the 5 core components of a pc.

The core hardware components of a PC are: CPU or system unit, the hard disk, the monitor, the keyboard and the mouse.

**3 Data**

1. Describe the nature of data.

When data is entered into a computer, it is raw and unorganised. It might be entered as numbers, letters, words, images or sounds. For data to become meaningful, it has to be processed or manipulated.

**4 Personnel**

1 Who are the personnel in organisations?

The personnel in an organisation are paramount to the success of an information system. Personnel are also known as users. ‘users’ is a broad term that describes employees, customers, sellers of goods and other people who use the information system.

**5 Procedures**

1. What is the purpose of procedures?

Procedures can be defined as series of steps that are followed so that tasks are performed uniformly and consistently. Procedures describe the tasks that users, ICT personnel and managers perform in relation to information system.

**Information characteristics in organisations,** p 133

**Information flow**

1. What is meant by information flow?

It is crucial to the efficient operation of any business that information is able to flow internally between the four hierarchy levels within the company (senior management, middle management, operational management and operational workers), and externally to and from suppliers, current clientele and potential customers.

1. List the four hierarchy levels within a large organisation and the people who are at each of these levels.

Senior management, middle management, operational management and operational workers

**Structure of information, p 134**

Describe the following categories or structures of information and which hierarchy level uses the information.

1. Detail reports

Involve the communication of all the assembled records. One line of the detail report is assigned to each record.

1. Summary reports

Are a brief version of the detail report that use totals and averages rather than reporting individual items. They are often used by middle and senior management to fain an understanding of what is happening at the operational level.

1. Aggregate reports

Are similar to detail reports, but the only relate to one particular factor or subject. If middle management wants to find out the sales record of a particular product over the past two years, it would use the aggregated sales report of that product.

1. Sample reports

Is a section of the detailed information that provides senior management with an idea of the overall situation. Taking a sample of the detailed information means that managers do not need to wade through what is often irrelevant material.

1. Exception reports.

Identifies data that shows a variation from the set of target result, and helps managers identify situations that require action.

**Decision-making in organisations, p 135**

Under each of the following levels of management describe the characteristics of decision making made, strategic, tactical, operational and day-to-day decisions.

1. Decision-making by senior management

Strategic decisions can involve very complicated problems that relate to the long-term goals of an organisation. They can take senior management years to make. Strategic decision-making often involves studying market trends, choosing new products to manufacture or market, analysing social, legal and environmental concerns, determining site locations and adjusting management structure.

1. Decision-making by middle management

Middle management makes tactical decisions to solve problems that affect the running of the organisation. The managers of each department within the organisation are responsible for the running of their own department, whether it be human resources, sales, marketing, accounts or information and communication technology. They are also responsible for making sure that the strategic decisions made by senior management are successfully carried out. Some tactical decisions could take up to a year or more to finalise; however, most are made within weeks or months.

1. Decision-making by operational management

Operational managers, or lower management, are the supervisors of the workers. They deal with day-to-day operational decisions, such as:

* Directing customer complaints
* Replacing a worker who calls in sick
* Ordering more stock
* Changing the placement of certain products to eye level for quicker sales.

These problems require decisions that need to be made on the spot of within a very short time frame. Such decisions don’t usually have lasting effects on the organisation, but they do directly affect the morale of workers and customers. Operational managers uses a transaction processing system (TPS) to aid their problem solving and give them a detailed understanding of what stock is going out and what stock needs to be replaced.

1. Decision-making by operational workers

The workers at the operation level also make day-to-day decisions that help the efficient running of a business. The workers are usually the first point of contact with the public and need to make decisions such as:

* Who is next in the queue?
* Should a complaint go to management?
* Where can I direct a particular customer query?
* What type of software is going to be required for a specific task?

These are also short-term decisions that usually have very little bearing on the overall success of the business.